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SCIENCE

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FOR THE ADVANCEMENT OF SCIENCE.

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FRIDAY, JULY 25, 1902.

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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

SOME RECENT APPLICATIONS OF FUNCTION THEORY TO PHYSICAL PROBLEMS.*

IT has seemed appropriate that the address of the retiring chairman should draw attention to some of the most recent developments in those sciences which it is the object of this Section of the Association to promote, especially to some problems that seem to be making but slow headway, and to others that are at a standstill for want of appropriate modes of mathematical expression.

In selecting a particular group of problems I have been guided by the thought that there is one field of work which touches the domain of every member of this Section, whether his or her immediate interests lie in abstract mathematics, in physical mathematics or in astronomy. I mean the great field of the theory of functions of a complex variable.

The physicist or astronomer who wishes to understand the true nature of any function which he deals with must study its behavior on the complex plane, its zeros, its poles, its singularities and perhaps its Riemann surface. Moreover, in dealing with such important questions as stability

* Address by the retiring Vice-President and Chairman of Section A—Mathematics and Astronomy—of the American Association for the Advancement of Science, Pittsburgh meeting, June 28 to July 3, 1902.